(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 23 October 2003 (23.10.2003)

PCT

(10) International Publication Number WO 2003/087139 A3

(51) International Patent Classification⁷:

A61K 38/00

710111 50/00

(21) International Application Number:

PCT/US2003/008457

(22) International Filing Date: 27 March 2003 (27.03.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/371,650

10 April 2002 (10.04.2002) US

(71) Applicant (for all designated States except US): ELI LILLY AND COMPANY [US/US]; Lilly Corporate Center, Indianapolis, IN 46285 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): JAKUBOWSKI, Joseph, Anthony [US/US]; 3740 Governors Road, Indianapolis, IN 46208 (US). MCKINNEY, Thurman, Dwight [US/US]; 8914 Rohan Court, Indianapolis, IN 46278 (US).
- (74) Agents: STEWART, Mark, J. et al.; Eli Lilly And Company, P. O. Box 6288, Indianapolis, IN 46206-6288 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, F1, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, F1, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 8 January 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TREATMENT OF GASTROPARESIS

(57) Abstract: The invention relates to the use of GLP-1 compounds to treat gastroparesis. Patients with gastroparesis generally experience a delay in gastric emptying. GLP-1 compounds can be used to regulate gastric emptying in these patients.



BEST AVAILABLE COPY

INTERNATIONAL SEARCH REPORT

International application No.

| | | PCT/US03/08457 | |
|---|---|--|-----------|
| A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61K 38/00 US CL : 514/12 | | | |
| According to International Patent Classification (IPC) or to both national classification and IPC | | | |
| B. FIELDS SEARCHED | | | |
| Minimum documentation searched (classification system followed by classification symbols) U.S.: 514/12 | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST (Internal Patent/Publication DB); STN (structure search of claim 13 compound); NPL-Medline. | | | |
| C. DOCUMENTS CONSIDERED TO BE | RELEVANT | | |
| Category * Citation of document, with in | dication, where appropriate, | of the relevant passages Relevant to cla | im No. |
| Y US 5,981,488 (HOFFMANN) 09 | | entire document (GLP-1 1-17 | |
| Y US 6,268,343 B1 (KNUDSEN et a | analogs and treatment of gastric emptying and diabetes). US 6,268,343 B1 (KNUDSEN et al.) 31 July 2001 (31.07.01), entire document (derivatives of GLP-1 analogs and treatment of gastric emptying and diabetes). US 2001/0046956 A1 (HADCOCK) 29 November 2001 (19.11.01), paragraph 0105 (use of GLP-1 (7-37) as a known treatment for diabetes) and paragraph 0079 (for the treatment of gastroparesis). | | |
| Y US 2001/0046956 A1 (HADCOCI GLP-1 (7-37) as a known treatmer | | | |
| | | | |
| Further documents are listed in the continua | | See patent family annex. | |
| Special categories of cited documents: "A" document defining the general state of the art which is not particular relevance. | ot considered to be | later document published after the international filing date of date and not in conflict with the application but cited to under principle or theory underlying the invention | |
| "E" earlier application or patent published on or after the int | "X" ernational filing date | document of particular relevance; the claimed invention can considered novel or cannot be considered to involve an inve- when the document is taken alone | |
| "L" document which may throw doubts on priority claim(s) establish the publication date of another citation or other specified) | special reason (as "Y" | document of particular relevance; the claimed invention can considered to involve an inventive step when the document i combined with one or more other such documents, such con | 5 |
| "O" document referring to an oral disclosure, use, exhibition | | being obvious to a person skilled in the art | ilomation |
| "P" document published prior to the international filing date but later than the priority date claimed | | "&" document member of the same patent family | |
| Date of the actual completion of the international search | | Date of mailing of the international search report 0.7 NOV 2003 | |
| 28 June 2003 (28.06.2003) Name and mailing address of the ISA/US | Authorized | | |
| Mail Stop PCT, Atm: ISA/US Commissioner for Patents P.O. Box 1450 | Maury A | adet Kella selins | for |
| Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230 | Telephone | No. 703-308-1123 | |

Form PCT/ISA/210 (second sheet) (July 1998)